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United States Office of Civil Defense

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in time of EMERGENCY

a citizen's handbook on disasters

DEFENSE CIVIL PREPAREDNESS AGENCY

H–14–B

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Red Cross _____

Utility Companies _____

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Other _____

*In time of disaster, don't use the telephone to get information or advice. Depend on radio or television.

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IN TIME OF EMERGENCY

a citizen's handbook on disasters

The Office of Civil Defense gratefully acknowledges the assistance provided by representatives of the following agencies and organizations in the preparation of material for this handbook:

U.S. Department of Agriculture

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American Medical Association; Committee on Disaster Medical Care

American National Red Cross

National Association of State Civil Defense Directors

United States Civil Defense Council

The Office of Civil Defense, however, is solely responsible for the validity and accuracy of the information in the handbook.

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Governmental agencies—Federal, State, and local—plan and act to safeguard the public in time of emergency. But governmental action alone cannot take care of the entire need. Individuals and families can do a great deal *to protect themselves.*

To help assure your own safety, and that of your family, you need to understand the dangers, make advance preparations, and take the proper protective actions when emergencies occur.

I hope you will read this handbook carefully, and act upon its recommendations.

John E. Davis
U.S. Director of Civil Defense

INTRODUCTION

An emergency affecting a large number of people may occur anytime, anywhere.

It could be a flood, tornado, fire, hurricane, blizzard, earthquake, or other threat.

In any type of general disaster, lives can be saved if people are prepared for emergency, and know what actions to take when it occurs.

With the aid of Federal and State governments, cities and counties in all parts of the country are developing their local civil defense systems—the plans, organizations, and equipment needed to safeguard lives and property in disasters.

These local government systems have saved lives and relieved suffering in many major peacetime disasters. People have been warned of impending storms and similar dangers, told how to protect themselves, sheltered from the elements, fed and clothed, treated for injury and illness, and given help in resuming their normal lives.

As cities, counties, and towns develop their systems to deal with peacetime disasters, they are also becoming better prepared to cope with the effects of nuclear attack.

This handbook contains basic general information on peacetime disasters. This guidance is intended to supplement specific instructions issued by some local governments. Since special conditions may exist in some communities, local instructions may be slightly different.

In addition to following advice given in this handbook and the instructions of their local governments, people can prepare themselves better to meet any disaster by taking training courses to develop their "emergency skills." Especially recommended are these courses:

"PERSONAL AND FAMILY SURVIVAL" (12-hour course)—A basic orientation course in civil defense, which also tells people how to improve their protection against the effects of a nuclear attack.

"MEDICAL SELF-HELP" (16-hour course)—How to care for the sick and injured if a doctor or nurse is not available.

"FIRST AID" (courses of various lengths)—How to help the sick and injured until professional medical assistance is obtained.

"CARE OF THE SICK AND INJURED" (12-hour course)—How to care for patients after they have received professional medical treatment.

Information on these free courses, which are given in most communities, is available from local Civil Defense Offices, County Agricultural Extension Agents, local public health departments, or American Red Cross chapters. Special advice for rural families on emergency actions related to crops and livestock is available also from County Agricultural Extension Agents.

You can give yourself and your family a much better chance of surviving and recovering from disaster if you will *take time now to:*

- Understand the dangers you would face in disasters likely to occur in your area.
- Make your own preparations for an emergency.
- Learn what actions you should take when a disaster occurs.

PART ONE

DISASTERS

Chapter 1

GENERAL GUIDANCE

There are certain things you can learn and do that will help you get ready for, and cope with, almost any type of disaster.

In a time of emergency, taking proper action may save your life. *Take time to think*, and then take the considered action that the situation calls for. Usually, this will be the action you have planned in advance, or the action you are instructed to take by responsible authorities.

Here is other guidance that applies to most types of natural disasters.

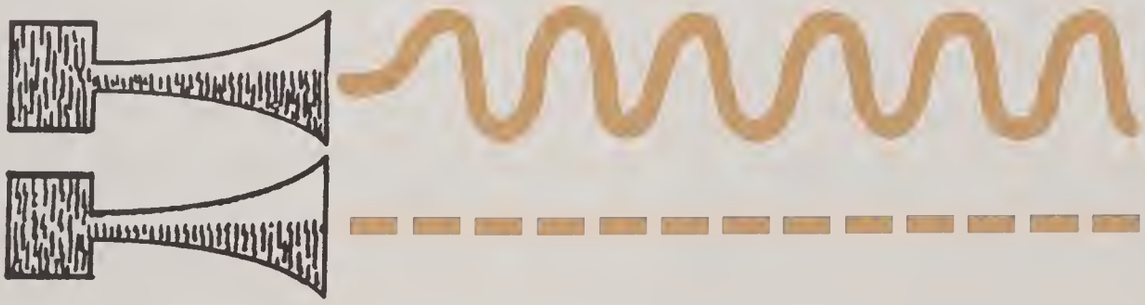
Warning

To warn of peacetime disaster, many communities are using an *Attention or Alert Signal*, usually a 3- to 5-minute *steady blast* to get the attention of their people. In most places, the Attention or Alert Signal means that people should turn on their radio or television sets to hear important emergency information being broadcast.



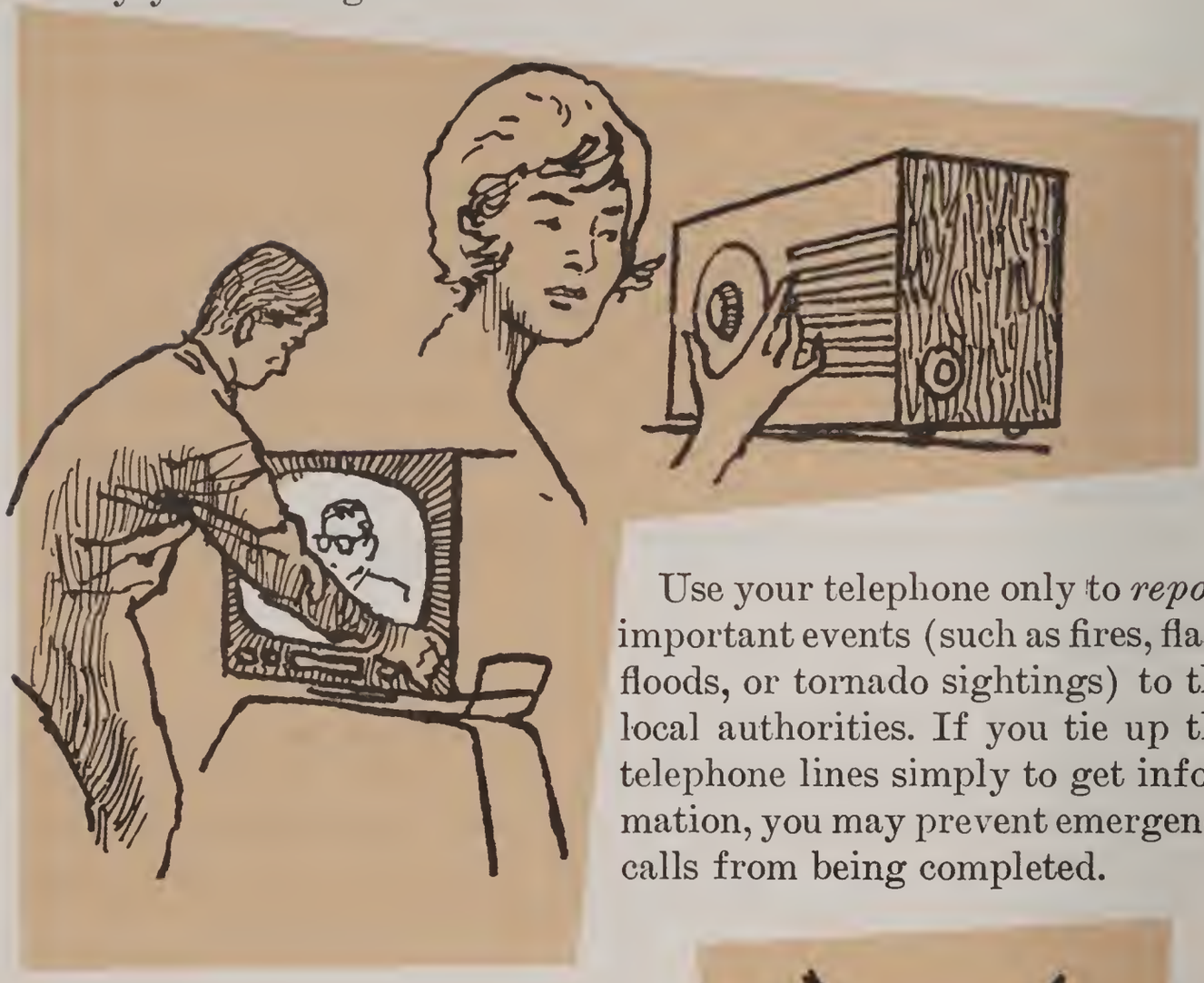
ATTACK WARNING

The Attack Warning Signal, used nationwide, is a *3- to 5-minute* wavering sound on sirens, or a series of short blasts on whistles or horns.



This signal means: An enemy attack against the United States has been detected. *Take protective action.*

When a major storm or other peacetime disaster threatens, keep your radio or television set turned on to hear weather reports and forecasts, as well as other information and advice that may be broadcast by your local government.



Use your telephone only to *report* important events (such as fires, flash floods, or tornado sightings) to the local authorities. If you tie up the telephone lines simply to get information, you may prevent emergency calls from being completed.



Don't Use the Telephone

—except to *report* an emergency

Emergency Supplies

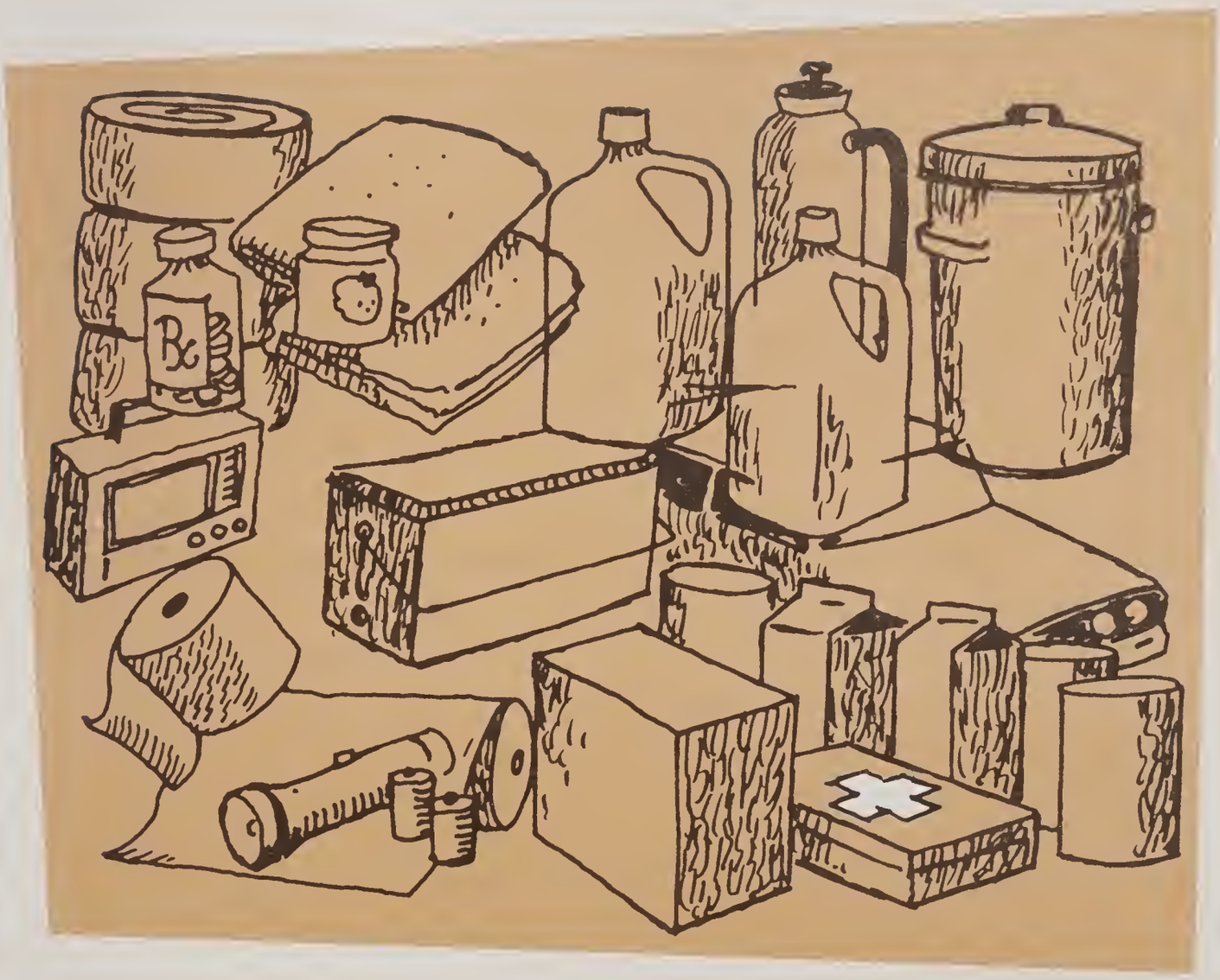
A major disaster of almost any kind may interfere with your normal supplies of water, food, heat, and other day-to-day necessities. You should keep on hand, in or around your home, a stock of emergency supplies sufficient to meet your needs for a few days or preferably for a week.

If you stayed at home during the disaster, these supplies would help you live through the period of emergency without hardship. If you had to evacuate your home and move temporarily to another location,

your emergency supplies could be taken with you and used en route or after you arrived at the new location (where regular supplies might not be available). Even if you only had to move to an emergency shelter station set up by a local agency, these supplies might be helpful to you, or make your stay easier.

The most important items to keep on hand are water (preferably in plastic jugs or other stoppered containers); canned or sealed-package foods that do not require refrigeration or heat for cooking; medicines needed by family members, and a first aid kit; blankets or sleeping bags; flashlights or lanterns; a battery-powered radio; and perhaps a covered container to use as an emergency toilet. In addition, an automobile in good operating condition with an ample supply of gasoline may be necessary in case you have to leave your home.

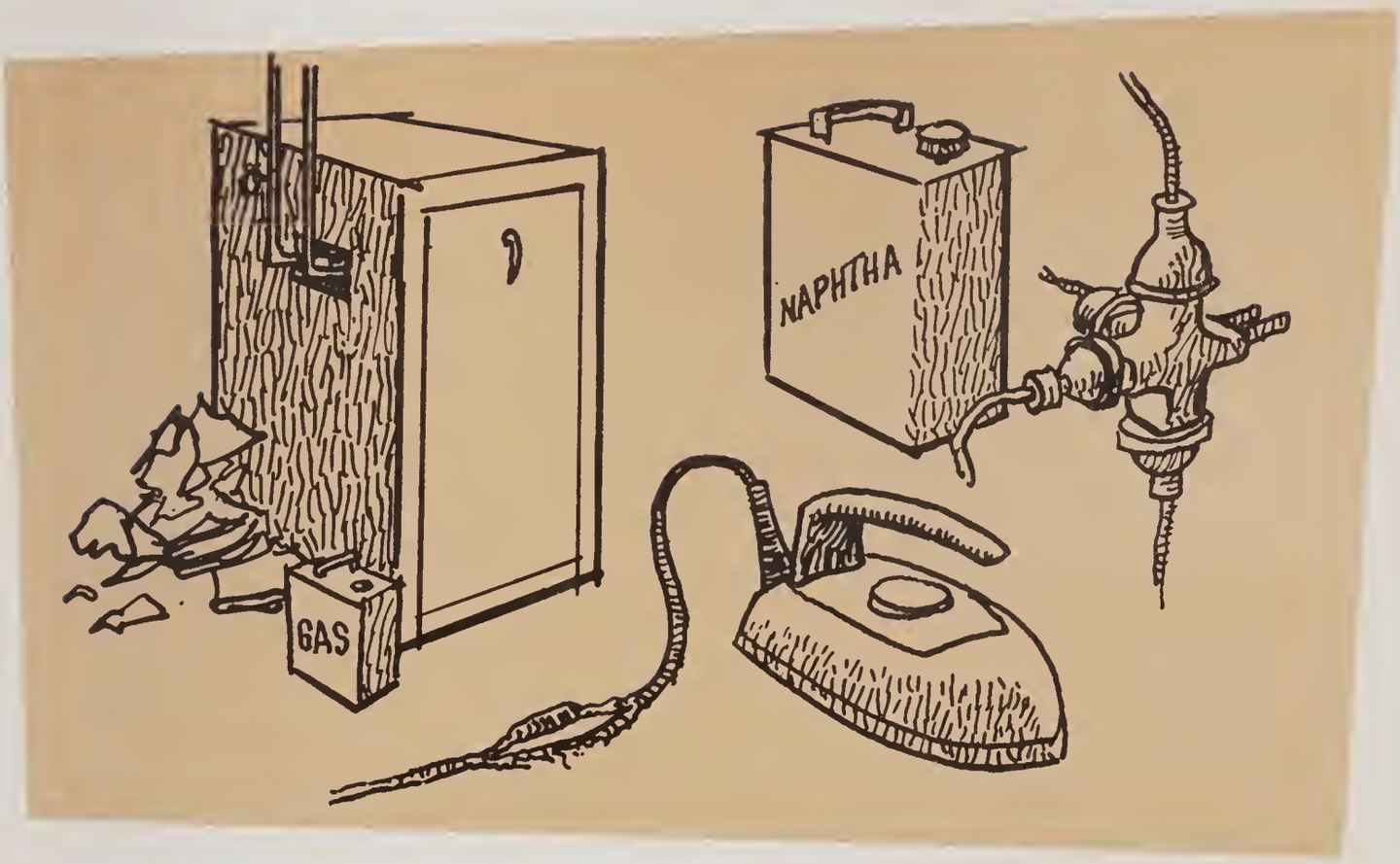
In those parts of the country subject to hurricanes or floods, it is also wise to keep on hand certain emergency materials you may need to protect your home from wind and water—such as plywood sheeting or lumber to board up your windows and doors, and plastic sheeting or tarpaulins to protect furniture and appliances.



Chapter 2

FIRE PROTECTION

Fire, always a danger, could be even more of a danger during a disaster, when the fire department might not be available to help you. Also, the risk of fire would be greater at that time.



Normal fire-prevention rules are of special importance in an emergency. To keep fires from starting:

Don't let trash and "junk" accumulate. Clean out attics, basements, closets and garages frequently.

Check electrical wiring and appliances. Replace worn or frayed cords. Don't put too many appliances on one circuit. Don't string extension wires all over the house, and never under rugs. Use irons and other heating appliances with caution.

Store explosive or flammable fluids carefully, outside the home if possible. Never use gasoline, benzine, naphtha and similar fluids indoors—if their vapors mix with air in a closed space, they will ignite readily from any kind of a spark. Rags soaked with oil or turpentine sometimes catch fire by themselves (this is called

spontaneous combustion), and therefore should never be left lying around.

Check heating plants. Many home fires are started by faulty furnaces and stoves, cracked or rusted furnace pipes, and sooty chimneys.

Don't place papers or magazines on radiators, or near stoves or fireplaces. Don't allow lamp shades to touch electric bulbs.

If a fire does occur, your home might be saved if you know how to fight fires, act promptly, and have on hand some basic firefighting tools. These should include a garden hose (preferably already connected), a ladder, buckets filled with sand, containers filled with water, and a fire extinguisher. Keep in mind that vaporizing-liquid types of fire extinguishers can produce dangerous fumes when used in small enclosed spaces.

Remember the 3 basic ways to put out a fire:

- Take away its fuel.
- Take away its air (smother it).
- Cool it with water or fire-extinguisher chemicals.

Whichever method you use, it will be most effective if you act immediately, before the fire grows larger, by:

—Getting the burning material out of the house (carry it out, or throw it out of a door or window if you can); or

—Putting out the fire with water, sand, earth or fire-extinguisher chemicals; or

—Smothering the fire with a rug or blanket, preferably wet.

Special types of fires require special methods:

—If it is an *electrical fire*, be sure to shut off the electricity first. Then put out the flames with water or anything else available. If you can't shut off the electricity, don't use water on an electrical fire.

—If it is an *oil or grease fire*, shut off the supply of whatever is burning. Then smother the flames with sand, earth, rugs or other heavy materials. Don't use water.

—If it is a *gas fire*, shut off the gas supply. Then use water, sand or earth to put out whatever is burning.

The fire departments of some communities in the United States conduct free training courses for citizens interested in learning how to fight fires at home or in becoming auxiliary firemen. If such courses are available in your community, you can acquire firefighting skills which may save your life or your home either in peacetime or in a period of nuclear attack.

Chapter 3

FLOODS AND HURRICANES

There are certain emergency actions particularly associated with major floods, hurricanes, and storm tides or surges. These types of disasters usually are preceded by extended periods of warning. People living in areas likely to be most severely affected often are warned to move to safer locations.

Evacuation

If you are warned to evacuate your home and move to another location temporarily, there are certain things to remember and do. Here are the most important ones:



- FOLLOW THE INSTRUCTIONS AND ADVICE OF YOUR LOCAL GOVERNMENT. If you are told to evacuate, do so promptly. If you are instructed to move to a certain location, go there—don't go anywhere else. If certain travel routes are specified or recommended, use those routes rather than trying to find short cuts of your own. (It will help if you have previously become familiar with the routes likely to be used.) If you are told to shut off your water, gas or electric service before leaving home, do so. Also find out on the radio where emergency housing and mass feeding stations are located, in case you need to use them.

- SECURE YOUR HOME BEFORE LEAVING. If you have time, and if you have not received other instructions from your local government, you should take the following actions before leaving your home:



—Bring outside possessions inside the house, or tie them down securely. This includes outdoor furniture, garbage cans, garden tools, signs, and other movable objects that might be blown or washed away.



—Board up your windows so they won't be broken by high winds, water, flying objects or debris.

—If flooding is likely, move furniture and other movable objects to the upper floor of your house. Disconnect any electrical appliances or equipment that cannot be moved—but don't touch them if you are wet or are standing in water.

—Do *not* stack sandbags around the outside walls of your house to keep flood waters out of your basement. Water seeping downward through the earth (either beyond the sandbags or over them) may collect around the basement walls and under the floor, creating pressure that could damage the walls or else raise the entire basement and cause it to "float" out of the ground. In most cases it is better to permit the flood waters to flow freely into the basement (or flood the basement yourself with clean water, if you feel sure it will be flooded anyway). This will equalize the water pressure on the inside and outside of the basement walls and floor, and thus avoid structural damage to the foundation and the house.

—Lock house doors and windows. Park your car in the garage or driveway, close the windows, and lock it (unless you are driving to your new temporary location).



● TRAVEL WITH CARE. If your local government is arranging transportation for you, precautions will be taken for your safety. But if you are walking or driving your own car to another location, keep in mind these things:

—Leave early enough so as not to be marooned by flooded roads, fallen trees, and wires.
—Make sure you have enough gasoline in your car.
—Follow recommended routes.
—As you travel, keep listening to the radio for additional information and instructions from your local government.
—Watch for washed-out or undermined roadways, earth slides, broken sewer or water mains, loose or downed electric wires, and falling or fallen objects.
—Watch out for areas where rivers or streams may flood suddenly.



—Don't try to cross a stream or a pool of water unless you are certain that the water will not be above your knees (or above the middle of your car's wheels) *all the way across.* Sometimes the water will hide a bridge or a part of the road that has been washed out. If you decide it is safe to drive across it, put your car in low gear and drive very slowly, to avoid splashing water into your engine and causing it to stop. Also, remember that your brakes may not work well after the wheels of your car have been in deep water. Try them out a few times when you reach the other side.

During a Hurricane

—If your house is on high ground and you haven't been instructed to evacuate, stay indoors. Don't try to travel, since you will be in danger from flying debris, flooded roads, and downed wires.

—Keep listening to your radio or television set for further information and advice. If the center or "eye" of the hurricane passes directly over you, there will be a temporary lull in the wind, lasting from a few minutes to perhaps a half-hour or more. *Stay in a safe place during this lull.* The wind will return—perhaps with even greater force—from the *opposite* direction.

Special Advice on Flash Floods

In many areas, unusually heavy rains may cause quick or "flash" floods. Small creeks, gullies, dry streambeds, ravines, culverts or even low-lying grounds frequently flood very quickly and endanger people, sometimes before any warning can be given.

In a period of heavy rains, be aware of this hazard and be prepared to protect yourself against it. If you see any possibility of a flash flood occurring where you are, move immediately to a safer location (don't wait for instructions to move), and then notify your local authorities of the danger, so other people can be warned.

Chapter 4

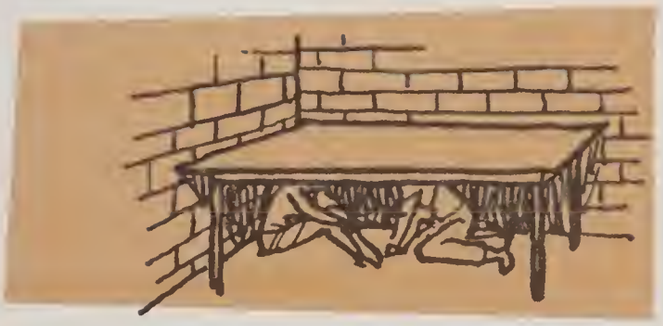
TORNADOES





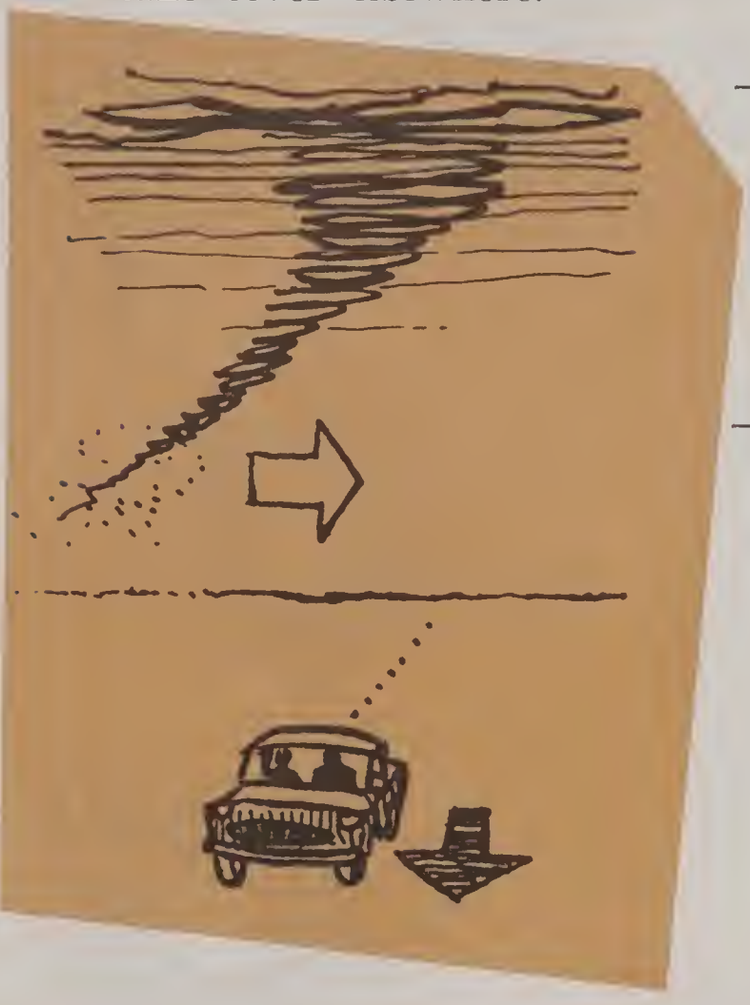


When a tornado watch (forecast) is announced, this means that tornadoes are expected in or near your area. Keep your radio or television set tuned to a local station for information and advice from your local government or the Weather Bureau. Also, keep watching the sky, especially to the south and southwest. (When a tornado watch is announced during the approach of a hurricane, however, keep watching the sky to the east.) If you see any revolving, funnel-shaped clouds, report them by telephone immediately to your local police department, sheriff's office or Weather Bureau office. But do not use the phone to get information and advice—depend on radio or TV.



When a tornado warning is issued, take shelter immediately. The warning means that a tornado has actually been sighted, and this (or other tornadoes) may strike in your vicinity. You must take action to protect yourself from being blown away, struck by falling objects, or injured by flying debris. Your best protection is an underground shelter or cave, or a substantial steel-framed or reinforced-concrete building. But if none of these is available, there are other places where you can take refuge:

—If you are *at home*, go to your underground storm cellar or your basement. Take cover under a sturdy workbench or table (but not underneath heavy appliances on the floor above). If your home has no basement, take cover under heavy furniture on the ground floor in the center part of the house, or in a small room on the ground floor that is away from outside walls and windows. (As a last resort, go outside to a nearby ditch, excavation, culvert or ravine.) Doors and windows on the sides of your house *away from* the tornado may be left open to help reduce damage to the building, but stay away from them to avoid flying debris. Do not remain in a trailer or mobile home if a tornado is approaching; take cover elsewhere.



—If you are *at work* in an office building, go to the basement or to an inner hallway on a lower floor. In a factory, go to a shelter area, or to the basement if there is one.

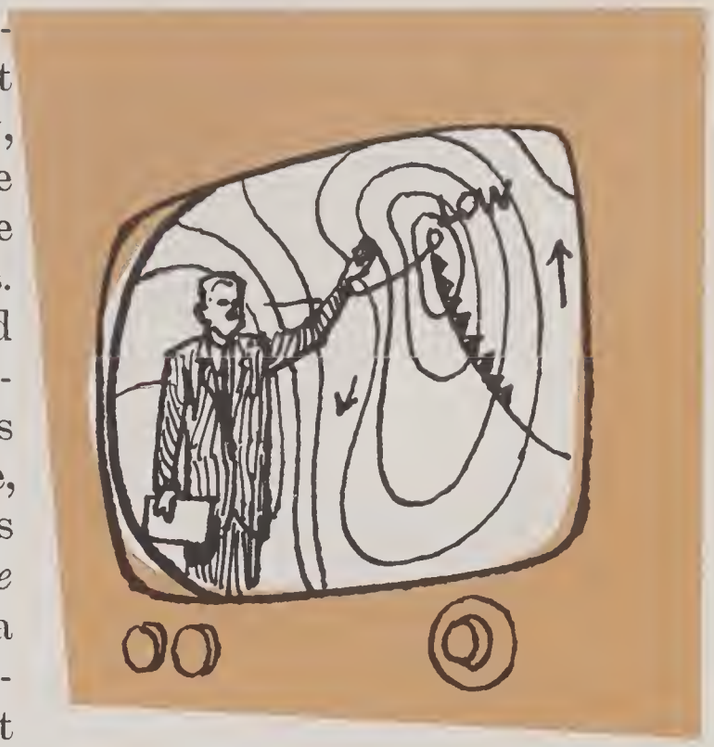
—If you are *outside in open country*, drive away from the tornado's path, at a right angle to it. If there isn't time to do this—or if you are walking—take cover and lie flat in the nearest depression, such as a ditch, culvert, excavation, or ravine.

Chapter 5

WINTER STORMS

Here is advice that will help you protect yourself and your family against the hazards of winter storms—blizzards, heavy snows, ice storms, freezing rain, or sleet.

● KEEP POSTED ON WEATHER CONDITIONS. Use your radio, television and newspapers to keep informed of current weather conditions and forecasts in your area. Even a few hours' warning of a storm may enable you to avoid being caught outside in it, or at least be better prepared to cope with it. You should also understand the terms commonly used in weather forecasts:



—A *blizzard* is the most dangerous of all winter storms. It combines cold air, heavy snow, and strong winds that blow the snow about and may reduce visibility to only a few yards. A *blizzard warning* is issued when the Weather Bureau expects considerable snow, winds of 35 miles an hour or more, and temperatures of 20 degrees Fahrenheit or lower. A *severe blizzard warning* means that a very heavy snowfall is expected, with winds of at least 45 miles an hour and temperatures of 10 degrees or lower.

—A *heavy snow warning* usually means an expected snowfall of 4 inches or more in a 12-hour period, or 6 inches or more in a 24-hour period. Warnings of *snow flurries*, *snow squalls*, or *blowing and drifting snow* are important mainly because visibility may be reduced and roads may become slippery or blocked.

—*Freezing rain or freezing drizzle* is forecast when expected rain is likely to freeze as soon as it strikes the ground, putting a coating of ice or glaze on roads and everything else that is exposed. If a substantial layer of ice is expected to accumulate from the freezing rain, an *ice storm* is forecast.

—*Sleet* is small particles of ice, usually mixed with rain. If enough sleet accumulates on the ground, it will make the roads slippery.

BE PREPARED FOR ISOLATION AT HOME. If you live in a rural area, make sure you could survive at home for a week or two in case a storm isolated you and made it impossible for you to leave. You should:

—Keep an adequate supply of heating fuel on hand and use it sparingly, as your regular supplies may be curtailed by storm conditions. If necessary, conserve fuel by keeping the house cooler than usual, or by "closing off" some rooms temporarily. Also, have available some kind of *emergency* heating equipment and fuel so you could keep at least one room of your house warm enough to be livable. This could be a camp stove with fuel, or a supply of wood or coal if you have a fireplace. If your furnace is controlled by a thermostat and your electricity is cut off by a storm, the furnace probably would not operate and you would need emergency heat.



—Stock an emergency supply of food and water, as well as emergency cooking equipment such as a camp stove. Some of this food should be of the type that does not require refrigeration or cooking.

—Make sure you have a battery-powered radio and extra batteries on hand, so that if your electric power is cut off you could still hear weather forecasts, information and advice broadcast by local authorities. Also, flashlights or lanterns would be needed.

—Consult page 6 of this handbook for other supplies and equipment that you may need if isolated at home. Be sure to keep on hand the simple tools and equipment needed to fight a fire. Also, be certain that all family members know how to take precautions that would prevent fire at such a time, when the help of the fire department may not be available.

TRAVEL ONLY IF NECESSARY. Avoid all unnecessary trips. If you must travel, use public transportation if possible. However, if you are forced to use your automobile for a trip of any distance, take these precautions:

—Make sure your car is in good operating condition, properly serviced, and equipped with chains or snow tires.

—Take another person with you if possible.

—Make sure someone knows where you are going, your approximate schedule, and your estimated time of arrival at your destination.

—Have emergency "winter storm supplies" in the car, such as a container of sand, shovel, windshield scraper, tow chain or rope, extra gasoline, and a flashlight. It also is good to have with you heavy gloves or mittens, overshoes, extra woolen socks, and winter headgear to cover your head and face.



—Travel by daylight and use major highways if you can. Keep the car radio turned on for weather information and advice.

—Drive with all possible caution. Don't try to save time by travelling faster than road and weather conditions permit.

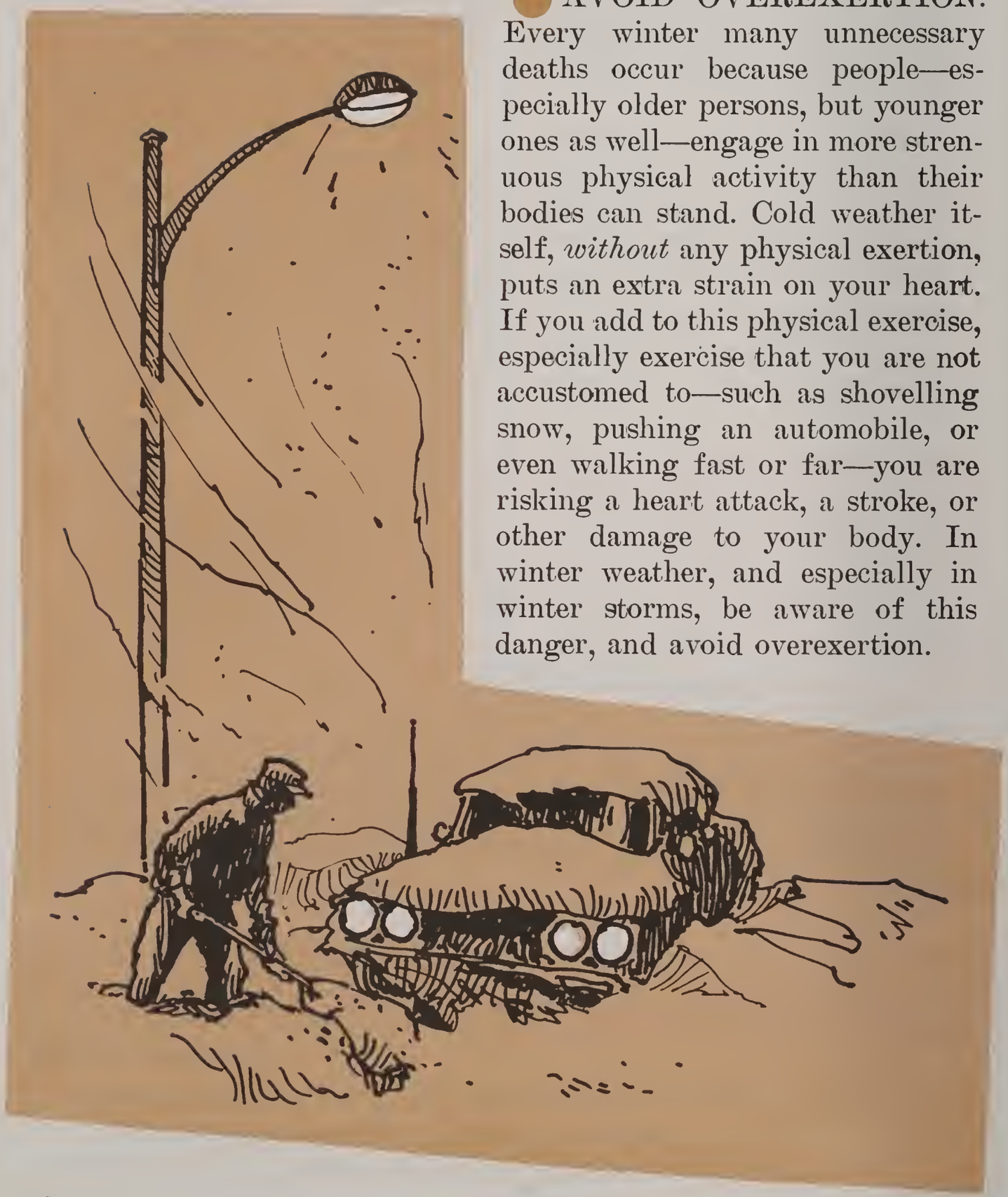
—Don't be daring or foolhardy. Stop, turn back, or seek help if conditions threaten that may test your ability or endurance, rather than risk being stalled, lost or isolated. If you are caught in a *blizzard*, seek refuge immediately.



● KEEP CALM IF YOU GET IN TROUBLE. If your car breaks down during a storm, or if you become stalled or lost, don't panic. Think the problem through, decide what's the safest and best thing to do, and then do it slowly and carefully. If you are on a well-traveled road, show a trouble signal. Set your directional lights to flashing, raise the hood of your car, or hang a cloth from the radio aerial or car window. Then stay in your car and wait for help to arrive. If you run the engine to keep warm, remember to open a window enough to provide ventilation and protect you from carbon monoxide poisoning.

Wherever you are, if there is no house or other source of help in sight, do not leave your car to search for assistance, as you may become confused and get lost.

● AVOID OVEREXERTION. Every winter many unnecessary deaths occur because people—especially older persons, but younger ones as well—engage in more strenuous physical activity than their bodies can stand. Cold weather itself, *without* any physical exertion, puts an extra strain on your heart. If you add to this physical exercise, especially exercise that you are not accustomed to—such as shovelling snow, pushing an automobile, or even walking fast or far—you are risking a heart attack, a stroke, or other damage to your body. In winter weather, and especially in winter storms, be aware of this danger, and avoid overexertion.



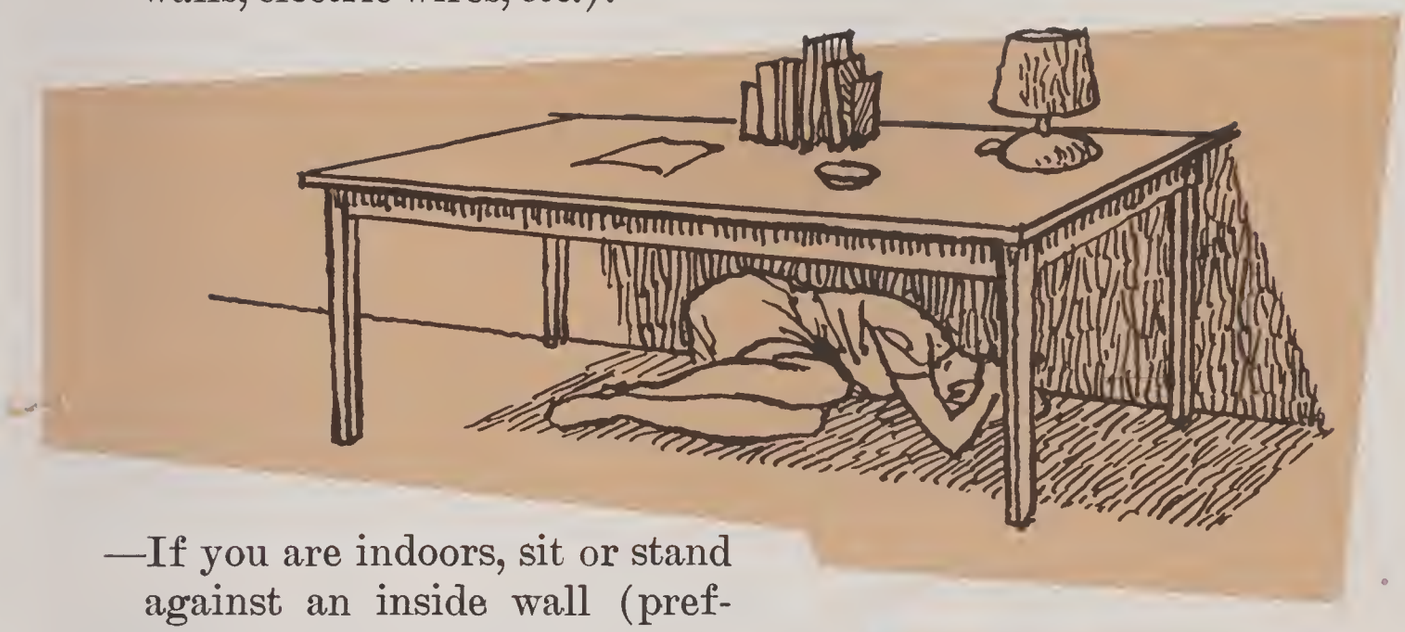
Chapter 6

EARTHQUAKES

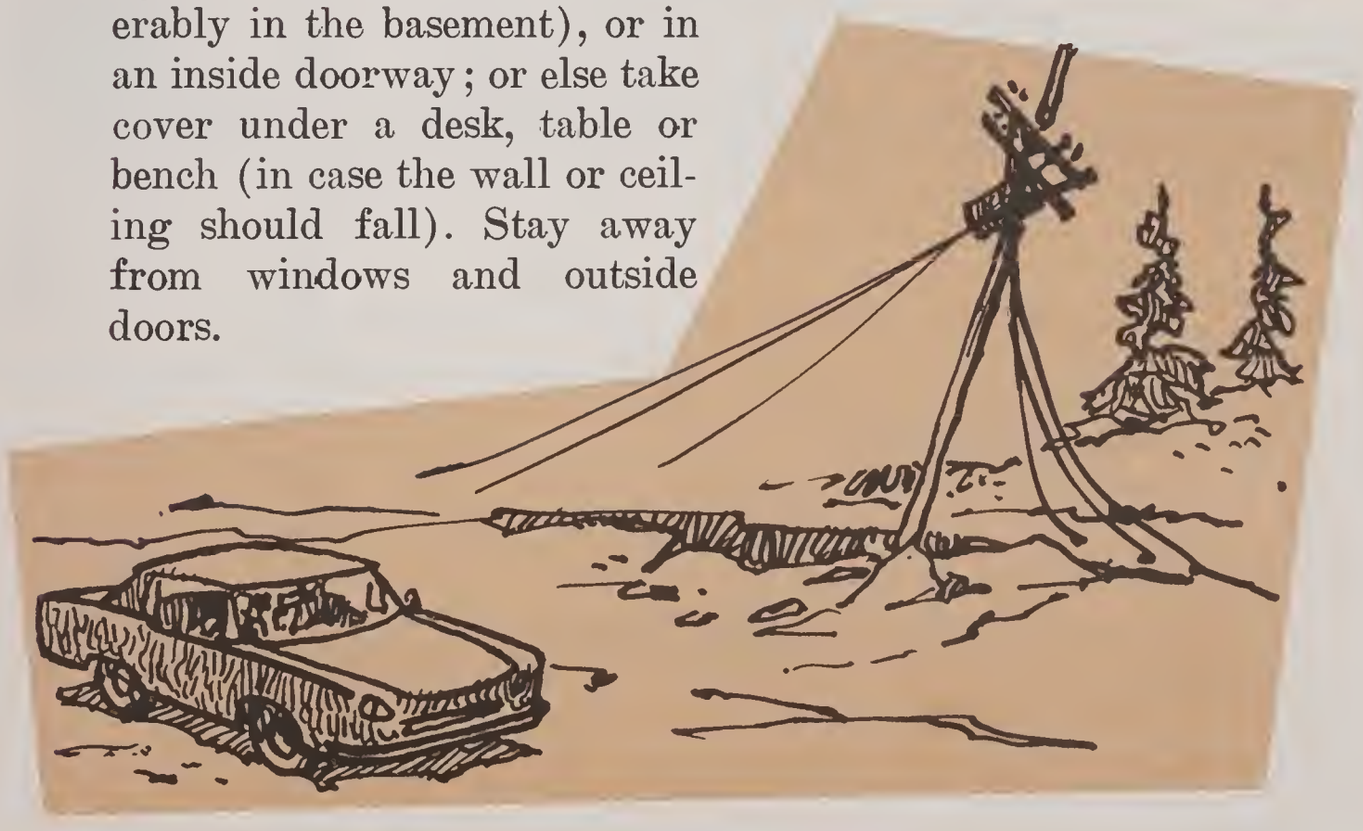
If your area is one of the places in the United States where earthquakes occur, keep these points in mind:

—When an earthquake happens, *keep calm*. Don't run or panic. If you take the proper precautions, the chances are you will not be hurt.

—REMAIN WHERE YOU ARE. If you are outdoors, stay outdoors; if indoors, stay indoors. In earthquakes, most injuries occur as people are entering or leaving buildings (from falling walls, electric wires, etc.).



—If you are indoors, sit or stand against an inside wall (preferably in the basement), or in an inside doorway; or else take cover under a desk, table or bench (in case the wall or ceiling should fall). Stay away from windows and outside doors.

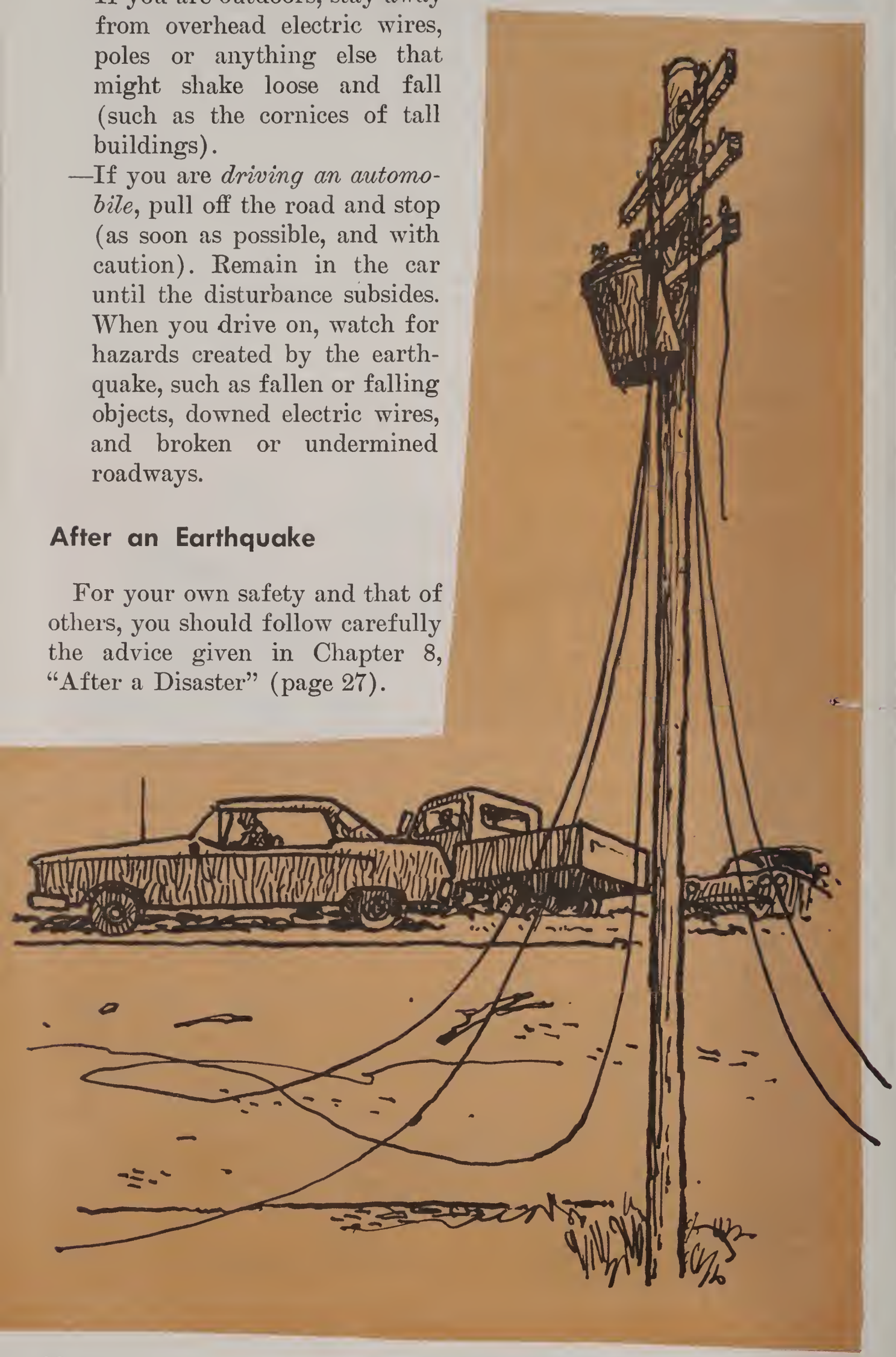


—If you are outdoors, stay away from overhead electric wires, poles or anything else that might shake loose and fall (such as the cornices of tall buildings).

—If you are *driving an automobile*, pull off the road and stop (as soon as possible, and with caution). Remain in the car until the disturbance subsides. When you drive on, watch for hazards created by the earthquake, such as fallen or falling objects, downed electric wires, and broken or undermined roadways.

After an Earthquake

For your own safety and that of others, you should follow carefully the advice given in Chapter 8, "After a Disaster" (page 27).



Chapter 7

FOREST AND WILDLAND FIRES

Forest fires—including fires on woodlands, croplands, pasturelands, and other rural property—take an estimated 1,000 lives each year in the United States, and cause more than $200 million damage to about 10,000 square miles of land.

Some of these fires are caused by lightning, and scientists are working on ways to prevent this.

The rest are caused by man, either by design (deliberately setting fires) or by accident or carelessness (debris burning, smoking, campfires, and use of equipment and machinery as in logging operations).



Preventing Forest Fires

Everyone can help prevent forest fires, by following these rules:

—Never burn trash outside in dry weather on windy days.

—Always have plenty of help, tools, and water nearby.

—Don't burn debris near wooded areas, buildings, or dry fields or grass.

—If a permit is required to burn trash or debris, get one. Then burn only in a metal container or on bare ground.

—When smoking in your car, use the ashtray—don't throw butts or burnt matches out the window. When walking in the woods, grind out butts and matches with your heel.

—At home, keep matches out of the reach of children. They accidentally set many forest and wildland fires.

—Be careful about campfires or warming fires in the woods. Before starting a fire, clear a space—down to bare earth—10 feet in diameter. Dig a hole in the center and build your fire there, and keep it small. Never build it against trees or logs, or near brush.

—Before you leave your fire, stir it while you pour water on it. Soak the wood all over, and the earth around the fire. Make sure the embers and sparks are *dead out*, by feeling them with your hand.

—If you use equipment or machinery in the woods (such as tractors, trucks, or power saws), make sure you have spark arrestors on engines, and be careful when refueling.

—Report promptly any fires or dangerous conditions you see, and any evidence of suspected incendiarism (deliberate fire-setting).



Be Ready to Cope With Forest Fires

If your home or community is likely to be threatened by a forest fire, there are advance actions you can take to protect yourself, your family, and your fellow-citizens:

- Take a free course in fighting forest fires. For information on this, contact your local civil defense agency, County Agricultural Extension Agent, or the Forest Service, U.S. Department of Agriculture, Washington, D.C. 20250.
- Make sure your own property is clear of material that may burn, especially brush and debris close to your home or other structures.
- Keep on hand, ready for quick use, hoses and other firefighting equipment you may need in case of a home fire or a nearby forest fire.
- Plan (write down on paper) where you would construct your "fire breaks" and what other individual actions you would take if a forest fire should threaten your property.
- Follow the rules given on page 9 of this booklet regarding fire prevention at home, and on page 23 of this booklet concerning prevention of forest fires.

If a Forest Fire Threatens Your Home or Community

1. If your home or property is threatened, summon aid *before* you start to fight the fire; *then* take the individual actions you had planned in advance. When help arrives, let professional or trained firefighters take charge (unless you are one).

2. If time permits and this is required, clear away all flammable vegetation within 30 feet of your home. Close all windows (cover them if possible). Remove from near windows and other openings any interior furnishings that may catch fire because of heat coming from outside. Secure livestock and pets.



3. If a forest fire occurs in your community, keep posted on it by means of radio or television. Follow the advice or instructions of your local government. If you are instructed to evacuate your home, do so at once, and follow prescribed routes. Don't try to take "shortcuts."

4. After your family and property are taken care of, see if you can help others. If you are trained in firefighting (or if untrained men are asked for), volunteer your services and report to the designated locations.

5. If you are helping to fight the fire, do so under the supervision of a trained firefighter. Follow his instructions, so as not to get hurt and also to make your efforts most effective. Keep informed—know where the fire is in relation to you, know your escape routes, and maintain communication with your supervisor. Keep safe, by remembering that forest fires are dangerous and not always predictable.

IMPORTANT: Firefighting is strenuous work. Do not engage in it unless you are in very good physical condition.

AFTER A DISASTER

After a Natural Disaster



Use extreme caution in entering or working in buildings that may have been damaged or weakened by the disaster, as they may collapse without warning. Also, there may be gas leaks or electrical short circuits.

Don't bring lanterns, torches or lighted cigarettes into buildings that have been flooded or otherwise damaged, since there may be leaking gas lines or flammable material present.

Stay away from fallen or damaged electric wires, which may still be dangerous.

Check for leaking gas pipes in your home. Do this by *smell only*—don't use matches or candles. If you smell gas, do this: (1) Open all windows and doors, (2) Turn off the main gas valve at the meter, (3) Leave the house immediately, (4) Notify the gas company or the police or fire department, (5) Don't re-enter the house until you are told it is safe to do so.

If any of your electrical appliances are wet, first turn off the main power switch in your house, then unplug the wet appliance, dry it out, reconnect it, and finally, turn on the main power switch. (Caution: Don't do any of these things while *you* are wet or standing in water.) If fuses blow when the electric power is restored, turn off the main power switch again and then inspect for short circuits in your home wiring, appliances and equipment.

Check your food and water supplies before using them. Foods that require refrigeration may be spoiled if electric power has been off for some time. Also, don't eat food that has come in contact with flood waters. Be sure to follow the instructions of local authorities concerning the use of food and water supplies.

If needed, get food, clothing, medical care or shelter at Red Cross stations or from local government authorities.

Stay away from disaster areas. Sightseeing could interfere with first aid or rescue work, and may be dangerous as well.

Don't drive unless necessary, and drive with caution. Watch for hazards to yourself and others, and report them to local authorities.

Write, telegraph or telephone your relatives, after the emergency is over, so they will know you are safe. Otherwise local authorities may waste time locating you—or if you have evacuated to a safer location, they may not be able to find you. (However, do not tie up the phone lines if they are still needed for official emergency calls.)

Do not pass on rumors or exaggerated reports of damage.

Follow the advice and instructions of your local government on ways to help yourself and your community recover from the emergency.

PART TWO

CARE OF THE SICK AND INJURED

SUMMARY

Before an emergency

1. Take the Medical Self-Help course, or a First Aid course.
2. If this is not possible, obtain a good first aid manual, study it, and keep it at home; or study the emergency medical instructions given in this chapter, and keep this handbook at home.
3. Obtain a good first aid kit, and keep your home medicine chest well stocked with supplies you may need in a time of emergency.

During an emergency

1. Try to get a doctor or nurse (or at least a person trained in first aid) to treat anyone who is injured or sick.
2. If no one better qualified is available, take charge yourself.

Information in the following pages is no substitute for training. However, this basic guidance may save lives during an emergency, by helping untrained persons take care of the sick and injured when professional medical assistance may not be immediately available.

General Rules For Any Medical Emergency

1. First of all, *do no harm.* Often, well-meaning but untrained persons worsen the injury or illness in their attempts to help. Get competent medical assistance, if possible. Do not assume responsibility for a patient if you can get the help of a doctor, nurse, or experienced first-aid worker. But if no one better qualified is available, take charge yourself.

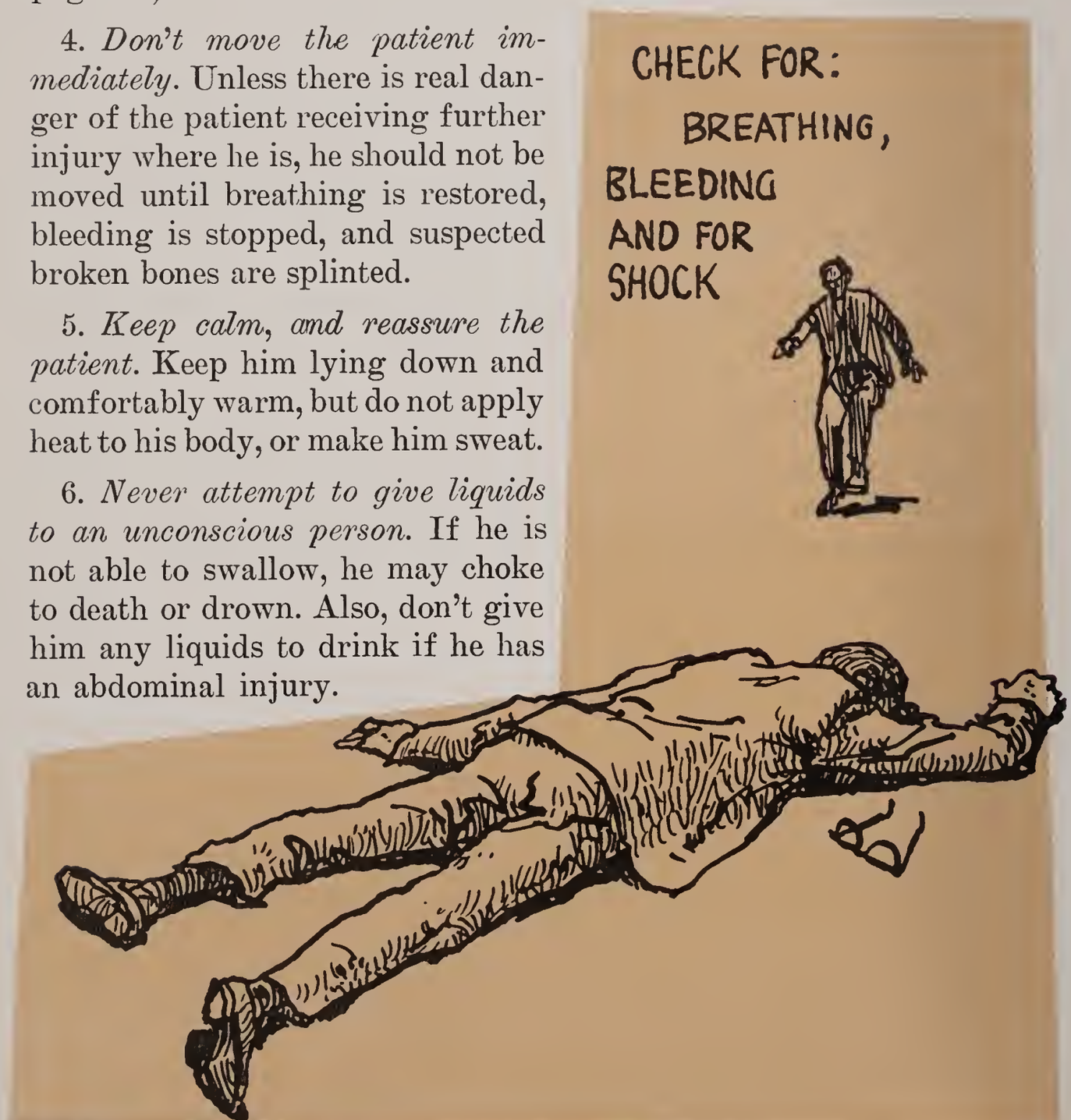
2. *Look for stoppage of breathing, and for serious bleeding.* These are the two most life-threatening conditions you can do something about. They demand *immediate* treatment (see pages 58 and 61).

3. *Prevent shock, or treat it.* Shock, a serious condition of acute circulatory failure, usually accompanies a severe or painful injury, a serious loss of blood, or a severe emotional upset. If you *expect* shock, and take prompt action, you can prevent it or lessen its severity. This may save the patient's life. (Treatment of shock is discussed on page 37.)

4. *Don't move the patient immediately.* Unless there is real danger of the patient receiving further injury where he is, he should not be moved until breathing is restored, bleeding is stopped, and suspected broken bones are splinted.

5. *Keep calm, and reassure the patient.* Keep him lying down and comfortably warm, but do not apply heat to his body, or make him sweat.

6. *Never attempt to give liquids to an unconscious person.* If he is not able to swallow, he may choke to death or drown. Also, don't give him any liquids to drink if he has an abdominal injury.



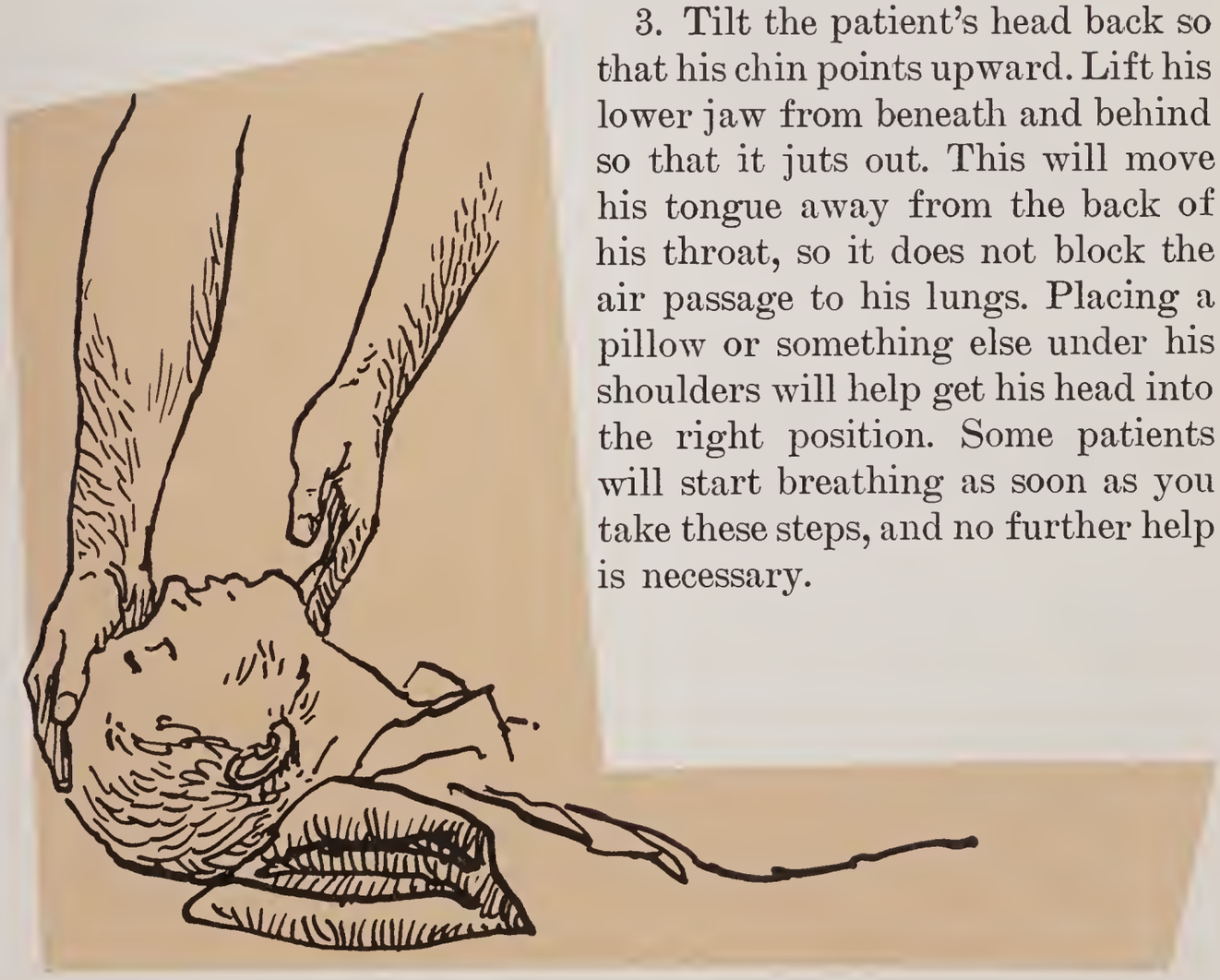
If the Patient Has Stopped Breathing

Quick action is required. You must get air into his lungs again immediately or he may die. The best and simplest way of doing this is to use mouth-to-mouth artificial respiration. Here is how to do it:



1. Place the patient on his back. Loosen his collar.

2. Open his mouth and use your fingers to remove any food or foreign matter. If he has false teeth or removable dental bridges, take them out.



3. Tilt the patient's head back so that his chin points upward. Lift his lower jaw from beneath and behind so that it juts out. This will move his tongue away from the back of his throat, so it does not block the air passage to his lungs. Placing a pillow or something else under his shoulders will help get his head into the right position. Some patients will start breathing as soon as you take these steps, and no further help is necessary.







4. Open your mouth as wide as possible, and place it tightly over the patient's mouth, so his mouth is completely covered by yours. With one hand, pinch his nostrils shut. With your other hand, hold his lower jaw in a thrust-forward position and keep his head tilted back. With a baby or small child, place your mouth over both his nose and mouth, making a tight seal.

5. Blow a good lungful of air into an adult patient's mouth, continuing to keep his head tilted back and his jaw jutting out so that the air passage is kept open. (Air can be blown through an unconscious person's teeth, even though they may be clenched tightly together.) Watch his chest as you blow. When you see his chest rise, you will know that you are getting air into his lungs.

6. Remove your mouth from the patient's mouth, and listen for him to breathe out the air you breathed into him. You also may feel his breath on your cheek and see his chest sink as he exhales.

7. Continue your breathing for the patient. If he is an adult, blow a good breath into his mouth every 5 seconds, or 12 times a minute, and listen for him to breathe it back out again. *Caution:* If the patient is an infant or small child, blow *small puffs* of air into him about 20 times a minute. You may rupture his lung if you blow in too much air at one time. Watch his chest rise to make sure you are giving him the right amount of air with each puff.

8. If you are *not* getting air into the patient's lungs, or if he is not breathing out the air you blew into him, first make sure that his head is tilted back and his jaw is jutting out in the proper position. Then use your fingers to make sure nothing in his mouth or throat is obstructing the air passage to his lungs. If this does not help, turn him



on his side and strike him sharply with the palm of your hand several times between his shoulder blades. This should dislodge any obstruction in the air passage. Then place him again on his back, with his head tilted back and his jaw jutting out, and resume blowing air into his mouth. If this doesn't work, try closing his mouth and blowing air through his nose into his lungs.



9. If you wish to avoid placing your mouth directly on the patient's face, you may hold a cloth (handkerchief, gauze or other porous material) over his mouth and breathe through the cloth. But don't waste precious time looking for a cloth if you don't have one.

10. *Important:* Even if the patient does not respond, continue your efforts for 1 hour or longer, or until you are completely sure he is dead. If possible, have this confirmed by at least one other person.

To Stop Serious Bleeding



1. Apply firm, even pressure to the wound with a dressing, clean cloth, or sanitary napkin. If you don't have any of these, use your bare hand until you can get something better. Remember, you must keep blood from running out of the patient's body. Loss of 1 or 2 quarts will seriously endanger his life.

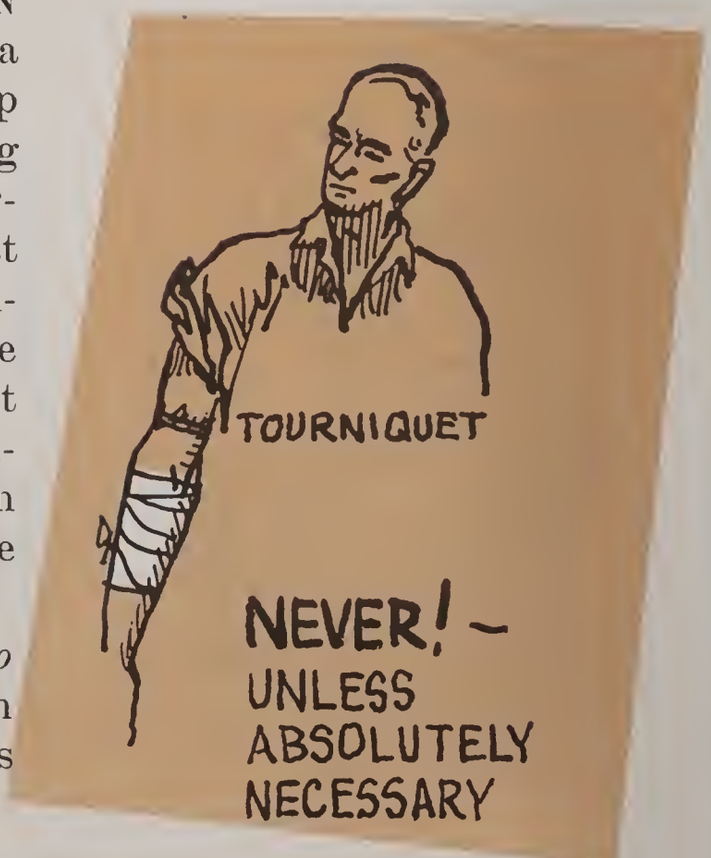
2. Hold the dressing in place with your hand until you can bandage the dressing in place. In case of an arm or leg wound, make sure the bandage is not so tight as to cut off circulation; and raise the arm or leg above the level of the patient's heart. (But if the arm or leg appears broken, be sure to splint it first.)



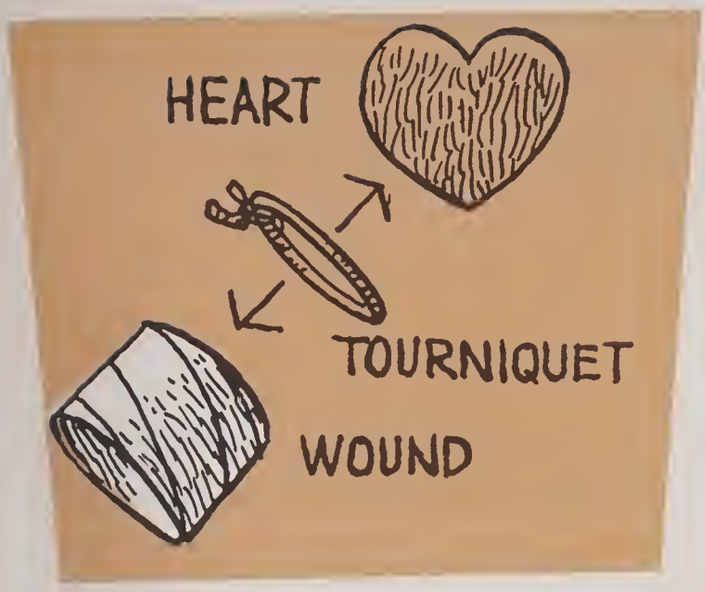
3. Treat the patient for shock.

4. If blood soaks through the dressing, do *not* remove the dressing. Apply more dressings.

5. SPECIAL ADVICE ON TOURNIQUETS: Never use a tourniquet unless you cannot stop excessive, life-threatening bleeding by any other method. Using a tourniquet increases the chances that the arm or leg will have to be amputed later. If you are *forced* to use a tourniquet to keep the patient from bleeding to death (for example, when a hand or foot has been accidentally cut off), follow these instructions carefully:



—Place the tourniquet *as close to the wound as possible*, between the wound and the patient's heart.



—After the tourniquet has been applied, do not permit it to be loosened (even temporarily, or even though the bleeding has stopped) by anyone except a physician, who can control the bleeding by other methods and replace the blood that the patient has lost.

—Get a physician to treat the patient as soon as possible.

Preventing and Treating Shock

Being "in shock" means that a person's circulatory system is not working properly, and not enough blood is getting to the vital centers of his brain and spinal cord.

These are the symptoms of shock: The patient's pulse is weak or rapid, or he may have no pulse that you can find. His skin may be pale or blue, cold, or moist. His breathing may be shallow or irregular. He may have chills. He may be thirsty. He may get sick at his stomach and vomit.

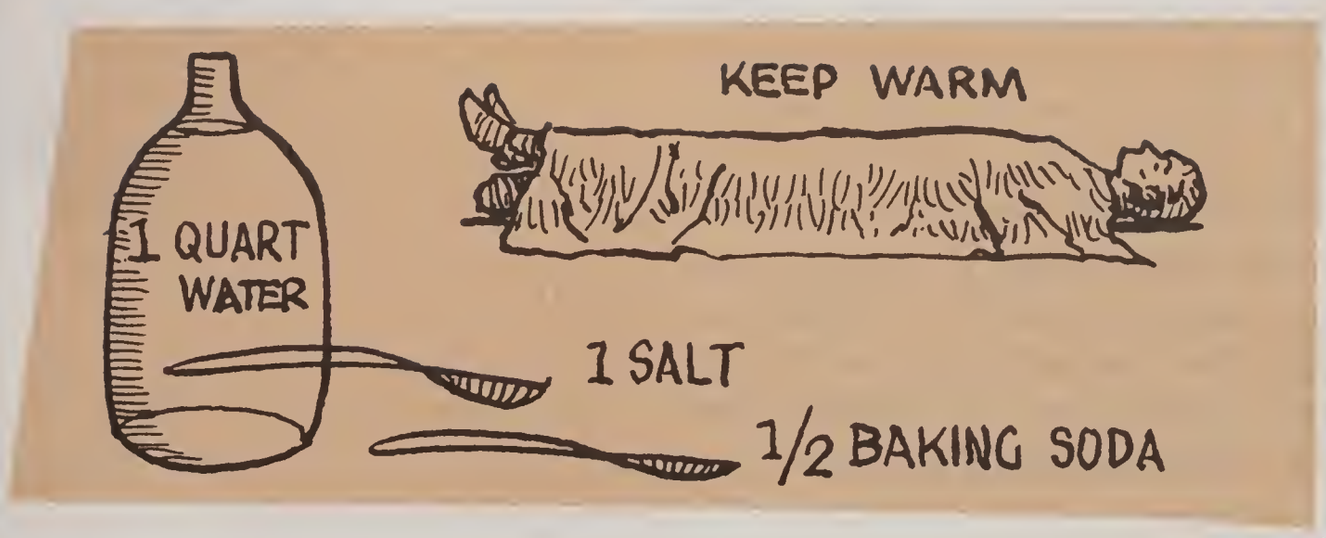
A person can be "in shock" whether he is conscious or unconscious.

Important: All seriously-injured persons should be treated for shock, even though they appear normal and alert. Shock may cause death if not treated promptly, even though the injuries which brought on shock might not be serious enough to cause death. In fact, persons may go into shock without having any physical injuries.

Here is how to treat any person who may be in shock:

1. Keep him lying down and keep him from chilling, but do *not* apply a hot water bottle or other heat to his body. Also, loosen his clothing.

2. Keep his head a little lower than his legs and hips. But if he has a head or chest injury, or has difficulty in breathing, keep his head and shoulders slightly higher than the rest of his body.



3. Encourage him to drink fluids if he is conscious and not nauseated, and if he does not have abdominal injuries. Every 15 minutes give him a half-glass of this solution until he no longer wants it: One teaspoonful of salt and a half-teaspoonful of baking soda to one quart of water.

4. Do *not* give him alcohol.

Broken Bones

Any break in a bone is called a fracture. If you think a person may have a fracture, treat it as though it were one. Otherwise, you may cause further injury. For example, if an arm or leg is injured and bleeding, splint it as well as bandage it.

With any fracture, first look for bleeding and control it. Keep the patient comfortably warm and quiet, preferably lying down. If you have an ice bag, apply it to the fracture to ease the pain. Do not move the patient (unless his life is in danger where he is) without first applying a splint or otherwise immobilizing the bone that may be fractured. Treat the patient for shock.

A FRACTURED ARM OR LEG should be straightened out as much as possible, preferably by having 2 persons gently stretch it into a normal position. Then it should be "splinted"—that is, fastened to a board or something else to prevent motion and keep the ends of the broken bone together. As a splint, use a board, a trimmed branch from a tree, a broomstick, an umbrella, a roll of newspapers, or anything else rigid enough to keep the arm or leg straight. Fasten the arm or leg to the splint with bandages, strips of cloth, handkerchiefs, neckties, or belts. After splinting, keep the injured arm or leg a little higher than the rest of the patient's body. From time to time, make sure that the splint is not too tight, since the arm or leg may swell, and the blood circulation might be shut off. If the broken bone is sticking out through the skin but the exposed part of it is





clean, allow it to slip back naturally under the skin (but don't push it in) when the limb is being straightened. However, if the exposed part of the bone is dirty, cover it with a clean cloth and bandage the wound to stop the bleeding. Then splint the arm or leg without trying to straighten it out, and try to find a doctor or nurse to treat the patient.

A FRACTURED COLLARBONE should also be prevented from moving, until the patient can get professional medical attention. It can be immobilized by placing the arm on that side in a sling and then binding the arm close to the body.





A FRACTURED RIB should be suspected if the patient has received a chest injury or if he has pain when he moves his chest, breathes, or coughs. Strap the injured side of his chest with 2-inch adhesive tape if available, or with a cloth bandage or towel wrapped around and around his entire chest.



Fractured bones in the NECK OR BACK are very serious, because they may injure the patient's spinal cord and paralyze him or even kill him. He should not be moved until a doctor comes (or a person trained in first aid), unless it is absolutely necessary to move him to prevent further injury. If a person with a back injury has to moved, he should be placed gently on his back on a stiff board, door or stretcher. His head, back, and legs should be kept in a straight line at all times.

A person with a neck injury should be moved gently with his head, neck, and shoulders kept in the same position they were when he was found. His neck should not be allowed to bend when he is being moved.

Burns

Non-serious or superficial (first degree) burns should not be covered—in fact, nothing need be done for them. However, if a first degree burn covers a large area of the body, the patient should be given fluids to drink as mentioned in item 2 following.

The most important things to do about serious (second or third degree) burns are: (*a*) Treat the patient for shock, (*b*) Prevent infection, and (*c*) Relieve pain. These specific actions should be taken:



1. Keep the patient lying down, with his head a little lower than his legs and hips unless he has a head or chest wound, or has difficulty in breathing.

2. Have him drink a half-glass every 15 minutes of a salt-and-soda solution (one teaspoonful of salt and a half-teaspoonful of baking soda to a quart of water). Give him additional plain water to drink if he wants it.

3. Cover the burned area with a *dry*, sterile gauze dressing. If gauze is not available, use a clean cloth, towel or pad.



4. With soap and water, wash the area *around* the burn (not the burn itself) for a distance of several inches, wiping *away* from the burn. The dressing will help prevent surface washings from getting into the burned area.

5. Use a bandage to hold the dry dressing firmly in place against the burned area. This will keep moving air from reaching the burn, and will lessen the pain. Leave dressings and bandage in place as long as possible.

6. If adjoining surfaces of skin are burned, separate them with gauze or cloth to keep them from sticking together (such as between toes or fingers, ears and head, arms and chest).

7. If the burn was caused by a chemical, wash it away with generous amounts of plain water, then treat the burn as described above.



What NOT to do about burns:



—Don't pull clothing over the burned area (cut it away, if necessary).

—Don't try to remove any pieces of cloth, or bits of dirt or debris, that may be sticking to the burn.

—Don't try to clean the burn; don't use iodine or other antiseptics on it; and don't open any blisters that may form on it.

—Don't use grease, butter, ointment, salve, petroleum jelly, or any type of medication on severe burns. Keeping them dry is best.

—Don't breathe on a burn, and don't touch it with anything except a sterile or clean dressing.

—Don't change the dressings that were initially applied to the burn, until absolutely necessary. Dressings may be left in place for a week, if necessary.

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